

ALEXANDRE CARMINOT

Engineering Student - Machine Learning & Medical Engineering

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EDUCATION

Master - Medical Engineering	09/2019 - Present
EPF Engineering School Paris	Expected Graduation in 2025
<ul style="list-style-type: none">Problem-solving, analytical and critical thinking, medical engineering principles, programming, device design.	
Computer Science - Exchange Program	09/2024 - Present
Tianjin University	
<ul style="list-style-type: none">Algorithmic programming, machine learning , computer vision, applied data science	
Intelligent Medical Engineering - Exchange Program	09/2023 - 01/2024
Tianjin University	
<ul style="list-style-type: none">Precision medicine, neurosciences, brain-computer interfaces (BCI), medical imaging basics, fundamentals of medical engineering.	

SPECIALIZATION COURSES

Deep Learning and Advanced Tensorflow	Advanced Machine Learning on Google Cloud
DeepLearning.AI	Google
Advanced Medical Neuroscience	Machine Learning Specialization
Duke University	Stanford University & DeepLearning.AI

PROJECTS

BCI application - In Progress
Developing a BCI simulator to interpret various EEG and MEG signals, including datasets for muscle movement, arithmetic tasks, error recognition, and active thinking. Enables real-time virtual control based on user thought patterns.
<ul style="list-style-type: none">Leveraging datasets (e.g., Berlin BCI Challenge IV, Motor-Movement Image) and signal processing techniques to classify thought-based actions for real-time control.Goal : Extract the "thoughts" and actions of the subjects to link it to various controls.
BCI Workshop - Tianjin University
Hand Movement Recognition (MATLAB)
<ul style="list-style-type: none">Developed and deployed a real-time hand gesture recognition system using flexion sensors and AI, classifying six unique static and dynamic patterns with pattern recognition algorithms. Demonstrated successful identification with 98% accuracy.
Disease Prediction Algorithm - Python
Self-developed an AI to determine a disease based on a provided symptoms list. Currently predicts 41 common diseases using 131 distinct symptoms.
<ul style="list-style-type: none">Developed a disease prediction model that achieved 96% accuracy by combining an ensemble of XGBoost, SVM, and ReLu models. Benchmarked model performance against a deep neural network to ensure robustness and model reliability

EXPERIENCE

AI Model Review Specialist	01/2024 - Present
Outlier.AI Remote Current	
<ul style="list-style-type: none">Reviews and flags critical errors in logic and generated code in large language model outputs, enhancing model precision and alignment with user expectations.	
Private Tutor and Esports Coach	06/2022 - 09/2023
<ul style="list-style-type: none">Led personalized tutoring sessions in Math and Physics, strengthening foundational skills and boosting student confidence in subject mastery.Customized tutoring and coaching strategies to suit individual skill levels, resulting in an improvement of the student's performance.	
Internship	06/2022 - 9/2022
Zen2050Maintenant	Paris
<ul style="list-style-type: none">Developed and implemented interactive exhibition stands for Zen2050's annual event, creating eco-conscious games, climate-themed art, and educational activities that engaged visitors in sustainability initiatives.	

ABOUT ME

As a student of engineering and medicine, my journey is deeply rooted in the intersection of medicine and technology. Focusing on medical engineering, I am driven by a passion for software development and artificial intelligence, particularly in the realms of brain-computer interfaces, machine learning, and neuro-engineering. My work has spanned projects using Python, MATLAB, and C++ to explore data analysis, signal processing, and AI-driven solutions.

FIND ME ONLINE

	Alex-Irae [link]
	My Portfolio [link]
	Alexandre CARMINOT [link]

SKILLS

<u>Programming</u>
Python - C++ - Java - Docker - Git
MATLAB - HTML, CSS & Javascript
<u>Libraries</u>
Tensorflow - Keras - MNE - Scikit
PyTorch - Seaborn - SciPy
<u>Technical Skills</u>
Machine Learning - Neurosciences
Deep Learning - CNN - NLP
Computer Vision
<u>Engineering Skills</u>
Problem Solving - Innovation - Analysis
Critical thinking - Device design

LANGUAGES

French	Native, Voltaire Certification
English	Expert, TOEIC (980/990)
Spanish	Intermediate, B1
Chinese	Elementary, HSK3

PASSIONS & HOBBIES

- Martial Arts : Taekwondo (Red Belt), Judo (Brown Belt)
- Team sports : Rugby & Soccer
- Music : Piano (Playing for seven years)
- Science : Astronomy, Cosmology, Archaeology